

## **REMARKS**

### **I. Objections to the Abstract**

The Examiner has requested that the Applicant review the Abstract in view of the guidelines of the M.P.E.P. In response, Applicant submitted a substitute Abstract in the Response filed July 14, 2008. The amended abstract is a single paragraph, on a single sheet and does not exceed 150 words. The Abstract avoids phraseology such as “means” and “said,” and sufficiently describes the disclosure to assist readers in deciding whether there is a need to consult the full patent text for details. The language is clear and concise and without repeating information given in the title. Applicant further notes that the *Final Action* does not state with any specificity which language bothers the Examiner. Applicant believes that the substitute Abstract complies the guidelines of the M.P.E.P, and requests the objection be withdrawn.

### **II. Claim Rejections**

#### **A. 35 U.S.C. § 112, first paragraph**

Claims 2-5 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the *Final Action* states that the limitations N to M/2 multiplexing are not disclosed in the specification.

The claims recite “N to M/2.” In order for a claim to be non-enabled, information must be missing about one or more essential parts or relationships between parts which one skilled in the art could not develop without undue experimentation. M.P.E.P. 2164.06(a). One skilled in the art would recognize that given a variable “M”, the “M/2” is one half of M. Furthermore, Applicant asserts that the specification’s discussion of 2:1 multiplexers and 4:1 multiplexers appearing in paragraphs [0021] and [0030] is sufficient to clearly convey to one of ordinary skill in the art the invention that is claimed. Therefore, one of ordinary skill in the art could develop the relationship between the parts without undue experimentation. Thus, Applicant respectfully requests the rejection of claims 2-5 under 35 U.S.C. § 112, first paragraph be withdrawn.

**B. 35 U.S.C. § 112, second paragraph**

Claims 1-24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the *Final Action* states independent claims 1, 10, 12, and 13 include the phrase “adapted for” making it unclear whether the limitations following the phrase are part of the claimed invention. *Final Action*, at 6. Further, dependent claims 2-9, 11, and 14-24 stand rejected because they depend from rejected claims 1, 10, and 12. See, *Final Action*, at 6.

As discussed in the Examiner Interview of January 22, 2009, *Hopper v. Microsoft*, 405 F.3d 1326, 1329 (Fed. Cir. 2005) holds that when a clause states a condition that is material to patentability, it cannot be ignored. See also, M.P.E.P. § 2111.04. Because the limitations following the phrase “adapted for” are material to patentability, the limitations cannot be ignored. Thus, it is clear the limitations following the phrase are part of the claimed invention. Accordingly, the Examiner and Applicant concluded the claims particularly point out the subject matter which Applicant regards as the invention.

Per the telephone conversation on March 3, 2009 between Examiner Tran and Applicant’s Attorney Lisa Joni Collins (Registration No. 59, 354), this Response After Final has been filed such that the rejection can be withdrawn and will not be at issue on Appeal. In furtherance of the telephone conversation, Applicant respectfully requests that the Examiner issue an advisory action withdrawing this rejection, thereby narrowing the issues on Appeal.

**C. 35 U.S.C. § 102 rejections**

Claims 1-3, 10-14, and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,520,187 to Snyder (hereafter *Snyder*). Claims 25-29 and 32-33 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 6,468,213 to Knell et al. (hereafter *Knell*) Applicant notes that page 3 of the *Final Action* states claim 34 is rejected as anticipated by *Knell*, but in light of the entire *Final Action*, Applicant believes the Examiner

intended the rejection to only apply to claims 25-29 and 32-33. (See pgs. 3, 10, 12, 20, and 21 of the *Final Action*.) Applicant requests clarification of the rejection to resolve the issue for Appeal.

It is well settled that to anticipate a claim, the reference must teach every element of the claim. See M.P.E.P. § 2131. Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” See M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that because the references do not teach each element of the claims, the claims are not anticipated.

**1. Claims 1-3, 10-14, and 24 Rejections over Snyder**

**a. Claim 1**

Claim 1 recites in part “[a] system comprising: an application specific integrated circuit (ASIC) . . . .” The *Final Action* cites the Abstract of *Snyder* as teaching an ASIC. *Final Action*, at 6. However, *Snyder* does not teach the ASIC of claim 1. Rather, *Snyder* discloses a programmable probe multiplexer which is a field programmable gate array (FPGA). *Snyder*, at column 5, lines 27-28 and Figures 3 and 4. Because *Snyder* fails to teach “[a] system comprising: an application specific integrated circuit (ASIC),” *Snyder* fails to anticipate claim 1. Thus, Applicant requests the rejection of record be withdrawn.

**b. Claims 2-3**

Claims 2-3 depend from independent claim 1 thereby inheriting all the claim limitations of claim 1. As explained above, *Snyder* fails to teach every limitation of claim 1; thus, at least due to dependence from claim 1, claims 2-3 contain limitations not taught by *Snyder*. Therefore, *Snyder* does not anticipate claims 2-3, and Applicant requests the rejections be withdrawn.

**c. Claim 10**

Claim 10 recites in part “[a] system comprising: an application specific integrated circuit (ASIC) . . . .” The *Final Action* cites the Abstract of *Snyder* as teaching an ASIC. *Final Action*, at 7. However, *Snyder* does not teach the ASIC of claim 10. Rather, *Snyder* discloses a programmable probe multiplexer which is a field programmable gate array (FPGA). *Snyder*, at column 5, lines 27-28 and Figures 3 and 4. Because *Snyder* fails to teach “[a] system comprising: an application specific integrated circuit (ASIC),” *Snyder* fails to anticipate claim 10. Thus, Applicant requests the rejection be withdrawn.

**d. Claim 11**

Claim 11 depends from independent claim 10 thereby inheriting all the claim limitations of claim 10. As explained above, *Snyder* fails to teach limitations of claim 10; thus, at least due to its dependence from claim 10, claim 11 contains limitations not taught by *Snyder*. Therefore, *Snyder* does not anticipate claim 11, and Applicant requests the rejection be withdrawn.

**e. Claim 12**

Claim 12 recites in part “configuring an ASIC . . . .” The *Final Action* cites column 2, lines 50-52 of *Snyder* as teaching the claim’s limitation. *Final Action*, at 8. However, *Snyder* does not teach configuring an ASIC. Rather, *Snyder* discloses reconfiguration of a programmable probe multiplexer which is a field programmable gate array (FPGA). *Snyder*, at column 5, lines 27-28 and Figures 3 and 4. Because *Snyder* fails to teach “configuring an ASIC,” *Snyder* fails to anticipate claim 12. Thus, Applicant requests the rejection be withdrawn.

**f. Claim 13**

Claim 13 recites in part “configuring an ASIC . . . and implementing . . . the ASIC . . . .” The *Final Action* cites column 2, lines 50-52 of *Snyder* as teaching the claim’s limitation. *Final Action*, at 9. However, *Snyder* does not teach configuring an ASIC or implementing the ASIC. Rather, *Snyder* discloses reconfiguration of a programmable probe multiplexer which is a field

programmable gate array (FPGA). *Snyder*, at column 5, lines 27-28 and Figures 3 and 4. Because *Snyder* fails to teach “configuring an ASIC ... and implementing ... the ASIC,” *Snyder* fails to anticipate claim 13. Thus, Applicant requests the rejection be withdrawn.

**g. Claim 14**

Claim 14 recites in part “summing data on each of at least two channels by the ASIC.” The *Final Action* cites column 2, lines 9-10 of *Snyder* as teaching summing data by the ASIC. *Final Action*, at 9. However, the cited portion of *Snyder* teaches **beamformer 2** outputs two summed beams. In the rejection, the Examiner likens *Snyder*’s programmable multiplexer (not beamformer) to the claims’ ASIC. Thus, regardless of whether *Snyder*’s beamformer 2 sums beams, based upon the Examiner’s reading of *Snyder* on the claim, *Snyder* does not teach summing data **by the ASIC**. Accordingly, the Examiner fails to make a prima facie showing of anticipation; thus, Applicant requests the the rejection be withdrawn. Moreover, claim 14 requires an ASIC. As explained above, *Snyder* fails to teach the required ASIC. Rather, *Snyder*’s teachings disclose an FPGA. Therefore, claim 14 is not anticipated by *Snyder*, and Applicant requests the rejection be withdrawn.

**h. Claim 24**

Claim 24 recites in part “programming the signal processing unit with code to provide a mode of functionality not originally included in a platform using the method . . . .” The *Final Action* cites column 2, lines 3-4 of *Snyder* as teaching this limitation. *Final Action*, at 9-10. However, the cited portion of *Snyder* fails to teach programming with code to provide a mode of functionality not originally included in a platform using the method. Rather, *Snyder* teaches programming with synchronization **options**, suggesting *Snyder*’s programming may be limited to the **options**, originally included in *Snyder*’s platform. Because *Snyder*’s programming appears to be limited to options originally included in the platform, *Snyder* does not teach programming the unit with code not originally included in the platform. *Snyder*, at col. 2, lines 3-5. Moreover, claim 24 depends from independent claim 12 thereby inheriting all of claim 12’s limitations.

Thus, because claim 12 is not taught but *Snyder*, as explained above, *Snyder* fails to teach each limitation of claim 12. Accordingly, because *Snyder* does not teach each and every limitation of claim 24, Applicant requests the rejection be withdrawn.

## **2. Claims 25-29 and 32-33 Rejections over Knell**

### **a. Claim 25**

Claim 25 defines an apparatus that includes an ASIC in communication with the data path between the transducer and the beam former, including circuitry operable as a bank of multiplexers to decrease a number of the information channels from the transducer to the beam former. *Knell* does not disclose these limitations. *Knell* mentions that a derotation multiplexer may be used. The Examiner then takes notice that because there is a multiplexer, then the number of information channels is decreased. Applicant notes that the multiplexer of *Knell* is a derotation multiplexer that is used to handle a linear or curved transducer. Nothing is stated that the multiplexer needs to reduce the channels to address the linear or curved transducer. The other portions of *Knell* cited to support the assertion of the *Final Action* also do not provide the necessary teaching. Column 18, lines 26-45 discusses using timing delay devices and the derotation multiplexer. Column 13, lines 25-32 discusses delaying signals of different channels. Column 13, lines 42-45 discusses connecting inputs with outputs. Nothing in *Knell*, even with the supplement of official notice, teaches the limitations of the claim. Thus, *Knell* does not teach all of the claimed limitations, and the elements are not arranged in the same manner as the claim. Therefore, the Applicant respectfully asserts that for the above reasons claim 25 is patentable over the 35 U.S.C. § 102 rejection of record and the claim should be allowed.

### **b. Claims 26-28**

Claims 26-28 depend from base claim 25, and thus inherit all limitations of claim 25. Each of claims 26-28 sets forth features and limitations not recited by *Knell*. Thus, the Applicant respectfully asserts that for the above reasons claims 25-29 are patentable over the 35 U.S.C. § 102 rejection of record.

**c. Claim 29**

Claim 29 defines an apparatus that includes an ASIC in communication with the data path between the transducer and the beam former, including circuitry operable as a summer/cross-point switch, to route a number of information channels from the transducer to the beam former. *Knell* does not disclose a cross-point switch. Moreover, the Examiner appears to agree because in rejecting claim 30, the Examiner states that *Knell* does not disclose a cross-point circuitry. *Final Action* at page 20, line 8. Thus, *Knell* does not teach all of the claimed limitations, and the elements are not arranged in the same manner as the claim. Therefore, the Applicant respectfully asserts that for the above reasons claim 29 is patentable over the 35 U.S.C. § 102 rejection of record. Applicant respectfully requests the rejection be withdrawn.

**d. Claims 32-33**

Claims 32-33 depend from base claim 29, and thus inherit all limitations of claim 29. Each of claims 32-33 sets forth features and limitations not recited by *Knell*. Thus, the Applicant respectfully asserts that for the above reasons claims 32-33 are patentable over the 35 U.S.C. § 102 rejection of record.

**D. 35 U.S.C. § 103**

Claims 4-9 and 15-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Snyder* in view of U.S. Pub. No. 2005/0203402 to Angelsen et al. (hereafter *Agelsen*). Claims 22-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Snyder* in view of *Knell*. Claims 30, 31, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Knell* in view of U.S. Pub. No. 2005/0113698 to Kristoffersen et al. (hereafter *Kristoffersen*).

The test for non-obvious subject matter is whether the differences between the subject matter and the prior art are such that the claimed subject matter as a whole would have been obvious to a person having ordinary skill in the art to which the subject matter pertains. The United States Supreme Court in Graham v. John Deere and Co., 383 U.S. 1 (1966) set forth the

factual inquiries which must be considered in applying the statutory test: (1) determining of the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; and (3) resolving the level of ordinary skill in the pertinent art. As discussed further hereafter, Applicant respectfully asserts that the claims include non-obvious differences over the cited art.

**1. Claims 4-9 and 15-21**

Claims 4-9 and 15-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Snyder* in view of *Agelsen et al.* Base claims 1 and 12 are defined as described above. *Snyder* does not teach all limitations of claims 1 and 12 as described above. *Agelsen* is not relied upon as disclosing the limitations deficient from *Snyder*. Therefore, the combination *Snyder* and *Agelsen* does not teach all elements of the claimed invention.

Claims 4-9 and 15-21 depend from base claims 1 and 12, and thus inherit all limitations of claims 1 and 12. Each of claims 4-9 and 15-21 sets forth features and limitations not recited by the combination of *Snyder* and *Knell*. Thus, the Applicant respectfully asserts that for the above reasons claims 4-9 and 15-21 are patentable over the 35 U.S.C. § 103(a) rejections of record. Thus, Applicant requests the rejections be withdrawn.

**2. Claims 22-23**

Claims 22-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Snyder* in view of *Knell*. Base claim 12 is defined as described above. *Snyder* does not teach all limitations of claim 12 as described above. *Knell* is not relied upon as disclosing the limitations deficient from *Snyder*. Therefore, the combination of *Snyder* and *Knell* does not teach all elements of the claimed invention.

Claims 22-23 depend from base claim 12, and thus inherit all limitations of claim 12. Each of claims 22-23 sets forth features and limitations not recited by the combination of *Snyder* and *Knell*. Thus, the Applicant respectfully asserts that for the above reasons claims 22-23 and



34 are patentable over the 35 U.S.C. § 103(a) rejection of record. Thus, Applicant requests the rejections be withdrawn.

### 3. Claims 30, 31, and 34

Claims 30, 31, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Knell* in view of *Kristoffersen*. Claims 30-31 and 34 depend from base claim 29, and thus inherit all limitations of claim 29. Base claim 29 is defined as described above. *Knell* does not teach all limitations of claim 29 as described above. *Kristoffersen* is not relied upon as disclosing the limitations deficient from *Knell*. Therefore, the combination of *Knell* and *Kristoffersen* does not teach all elements of the claimed invention, and Applicant requests the rejections be withdrawn.

### CONCLUSION

In view of the above, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response since it follows the filing of a notice of appeal on January 23, 2009. However, if a fee is due, please charge any fees required or credit any overpayment to Deposit Account 06-2380 under Order No. 65744/P018US/10404217 during the pendency of this Application pursuant to 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

Dated: March 10, 2009

**Amendment After Final Action Under 37 C.F.R.  
1.116**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4).

Dated: March 10, 2009

Signature: Carol Martin  
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